REMARKS

The Final Office Action mailed April 30, 2004, has been received and reviewed. Claims 1 through 5 and 7 through 13 are currently pending in the application. Claims 1 through 5 and 7 through 13 stand rejected. Applicants respectfully request reconsideration of the application in view of the arguments set forth hereinbelow.

Oath/Declaration

The Examiner has requested that Applicants complete a Form PTO/SB/96 to perfect Applicants' 3.73(b) statement, in that a copy of an assignment was indicated to be attached to the Power of Attorney by Assignment and Certificate Under 37 CFR 3.73(b) filed with the present application, but apparently the assignment cannot be found in the image file wrapper documentation. Although Applicants' file shows that a copy of the assignment was attached to the Power of Attorney by Assignment and Certificate Under 37 CFR 3.73(b), Applicants have completed the Form PTO/SB/96, which is enclosed herewith.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 6,056,823 to Sajoto et al., in View of U.S. Patent No. 4,638,150 to Whitney as Demonstrated by U.S. Patent No. 4,480,930 to DeZubay et al.

Claims 1 through 5 and 7 through 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sajoto et al. (U.S. Patent No. 6,056,823) in view of Whitney (U.S. Patent No. 4,638,150) as demonstrated by DeZubay et al. (U.S. Patent No. 4,480,930). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable

> expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejections of claims 1 through 5, and 7 through 13 are improper because the references relied upon by the Examiner fail to teach or suggest all of the limitations of the presently claimed invention and, furthermore, because there is a lack of motivation to combine the references in the manner suggested by the Examiner.

Independent claim 1 of the presently claimed invention is directed to a deposition chamber. The deposition chamber comprises: a chamber body having a cavity formed therein; a chamber lid configured to enclose the cavity; a vapor delivery head positioned within the cavity; a feedthrough device positioned in the chamber body, the feedthrough device having a longitudinal body portion and being configured to receive vapor from a vapor source and transfer the vapor therethrough along a pathway toward the vapor delivery head; a heating device including at least one resistor element having at least a portion thereof disposed within a thermally conductive sheathing, the heating device including a nonheated section and a heated section, wherein at least a portion of the heated section is configured to conduct heat to the longitudinal body portion of the feedthrough device; a layer of thermal insulation disposed between at least a portion of the thermally conductive sheathing of the heating device and the chamber body and substantially circumscribing the longitudinal body portion and the at least a portion of the thermally conductive sheathing, the layer of thermal insulation including at least a portion which is contiguous with at least one of a surface of the chamber body and a surface of the longitudinal body portion; and a temperature sensing device disposed between the layer of insulation and the longitudinal body portion of the feedthrough device and configured to generate a signal representative of a temperature sensed thereby. Applicants respectfully submit that the references relied upon by the Examiner fail to teach or suggest all of the limitations as set forth in claim 1 of the presently claimed invention.

The Examiner cites Sajoto as teaching a chamber body having a cavity formed therein; a chamber lid configured to enclose the cavity; a vapor head positioned within the cavity; a feedthrough device having a longitudinal body portion positioned in the chamber body having a

lumen defined therein and configured to receive vapor from a vapor source and transfer the vapor therethrough along a pathway toward the vapor delivery head; a resistance heating device associated with the feedthrough device wherein at least a portion of the resistance heater is positioned within a continual helical groove of the feedthrough device.

The Examiner then cites Whitney as teaching a flexible wire heater device including: electrical resistance leads having at least a portion thereof disposed within a stainless steel conductive sheathing; and "a thermocouple ('PTC component 14', 'temperature-responsive component 14'; column 4, lines 54-68) positioned within the conductive sheathing to form a 'self-limiting' heater." (Office Action, page 6; the Examiner cites, in a footnote, U.S. Patent 4,480,930 to DeZubay et al. as demonstrating that PTCs are thermocouples). The Examiner further cites Whitney as teaching a layer of thermal insulation (42, 44) disposed between at least a portion of the heated section (40) of the heating device; and "a temperature sensing device ('PTC component 14'. 'temperature-responsive component 14'; column 4, lines 54-68) positioned inside the layer of insulation and configured to generate a signal representative of a temperature sensed thereby." (Office Action, page 6).

The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Sajoto's heater with Whitney's heater by either adhering or welding Whitney's heater to Sajoto's feedthrough device to provide a heater with a temperature responsive component to limit elevated temperatures as taught by Whitney. (See, e.g., Office Action, pages 6-7). Applicants respectfully disagree.

As a preliminary matter, Applicants traverse the Examiner's assertion that Whitney's use of the acronym "PTC" for pulsed thermocouple is taught by DeZubay. Applicants respectfully submit that Whitney uses "PTC" as an acronym for the more common meaning of "positive thermal coefficient." In particular, Applicant points to Column 2, lines 7-41, of Whitney in which both "zero temperature coefficient," (Col. 2, lines 9-10), and "positive temperature coefficient," (Col. 2, lines 25-28), materials are defined. Whitney describes the characteristics and the behaviors of zero temperature coefficient and positive temperature coefficient materials in these paragraphs, concluding, "[a] material is defined as a ZTC material if it is not a PTC material in the temperature range of operation." (Col. 2, lines 39-41). Whitney does not

explicitly state that "ZTC" is an acronym for "zero temperature coefficient," but within the context of the two preceding paragraphs, (Col. 2, lines 7-41), such an interpretation is the only logical conclusion, as no other terms within these paragraphs may remotely be associated with the acronym "ZTC." Likewise, while not explicitly defined as "positive temperature coefficient" such an interpretation of the acronym "PTC" is amply supported by Whitney. For example, Whitney spends an entire paragraph discussing the specific, physical characteristics of "positive temperature coefficient" materials. (Col. 2, lines 25-41).

The Examiner's interpretation that "PTC" is an acronym for "pulsed thermocouple" necessarily implies that Whitney compares a "ZTC," or "zero temperature coefficient," material with a "PTC," or "pulsed thermocouple," material after spending the entire two preceding paragraphs discussing "positive temperature coefficient" properties. (Col. 2, lines 39-41). Such an interpretation is clearly fails to provide any logical meaning to the specification of Whitney.

Furthermore, Whitney's consistent use of the acronyms "ZTC" and "PTC" throughout the patent supports the Applicants' interpretation that "PTC" is an acronym for "positive temperature coefficient." In just one example, Whitney discusses an aspect of the invention embodying a self-limiting heater and refers to "a series electrical connection between the zero temperature coefficient of resistance component and the positive temperature coefficient of resistance component." (Col. 2, lines 51-54). Subsequently, Whitney describes the schematic of a self-limiting heater in Figures 1a-1f. (Col. 4, lines 38-39). In the description, Whitney describes the flow of a current through "the ZTC component **13** ... and through the PTC component **14**...." (Col. 4, lines 67-68, Fig. 1e-1f; *see also* Col. 5, line 5, Fig. 2). The Applicants' interpretation that "PTC" is the acronym for "positive temperature coefficient" is the only interpretation of "PTC" that gives the proper intent and meaning to Whitney's disclosure.

Applicants further submit, herewith, a listing of common meanings associated with the acronym "PTC" as set forth by Acronym Finder (www.acronymfinder.com, visited on June 18, 2004), which lists 48 different meanings, of which "positive temperature coefficient" is listed, but "pulsed thermocouple" is not.

Applicants respectfully submit that Whitney clearly does not use the acronym "PTC" within the meaning of a pulsed thermocouple as taught by DeZubay, nor would one of ordinary skill in the art interpret Whitney in such a way.

Accordingly, Applicants respectfully disagree with the Examiner's conclusion that Whitney's "PTC component 14 is a temperature sensing (signal generating) device, *i.e.*, thermocouple," (Office action, page 9). Whitney specifically describes a "temperature *responsive* component that has a positive temperature coefficient of resistance 14," (Col. 4, lines 55-56, emphasis added; Fig. 1d; *see also* Col. 3, lines 46-48) and further refers to element 14 as a "PTC component," (Col. 4, line 68), in the context of a self-limiting heater. As shown in the preceding paragraphs, however, Whitney does *not* use "PTC" as an acronym for a pulsed thermocouple, which might act as temperature sensing (signal generating) device. Nor does the Whitney patent contain any description or provision for any other temperature sensing device capable of generating any such signal. Accordingly, Whitney fails to teach or suggest a temperature sensing device configured to generate a signal representative of a temperature sensed thereby.

Applicants also respectfully submit that the combination of Sajato and Whitney fail to teach or suggest a temperature sensing device *disposed between the layer of insulation and the longitudinal body portion of the feedthrough device.*

The Examiner conflates Whitney's use of the term insulation in the electrical sense with the Applicants' use of insulation in the thermal sense. Indeed, Whitney's electrical heater would have little utility if the insulation referred to therein was designed to thermally isolate the heating element from that which is meant to be heated. The Examiner seems to implicitly recognize that Whitney's insulation is meant to isolate the electrical components rather than thermally isolate them. In particular, the Examiner refers to "[e]lectrical resistance leads/resistor elements having at least a portion thereof disposed within a stainless steel *thermally conductive* sheathing." (Office action, pg. 6,emphasis added). The portion of Whitney relied upon by the Examiner includes the very same teachings that the Examiner later cites to support the contention that Whitney employs *thermal* insulation in conjunction with the heating element. Applicants submit

that it is the electrical insulating quality of the insulation, not the thermal insulating quality, that Whitney inherently describes.

Relying on the Examiner's interpretation, combination of Whitney's heater with Sajoto's feedthrough device, would thermally isolate the heating element from the feedthrough device and thereby render Sajato's device inadequate for its intended purpose.

Given that Whitney does not teach the use of thermal insulation to isolate the heating element from the longitudinal portion of the chamber body, as discussed above, Applicants reassert that Sajoto teaches a thermocouple disposed external to the radiation shield (Figs. 2 – 3a), whereas claim 1 of the presently claimed invention requires a temperature sensing device *disposed between the layer of insulation and the longitudinal body portion of the feedthrough device.*

Additionally, Applicants submit that the Examiner has misinterpreted the limitation that the layer of thermal insulation includes at least a portion *which is contiguous with at least one of a surface of the chamber body and a surface of the longitudinal body portion.* The Examiner has interpreted that this "requirement is equivalent to a claim requiring a relative length between Whitney's sheathing (46; Figure 4) length to Whitney's layer of thermal insulation (42,44; Figure 4) length). At www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=contiguous, "contiguous" is defined as "being in actual contact : touching along a boundary or at a point."

Considering the common definition of contiguous, Applicants reassert that the combination of Sajato and Whitney fails to teach or suggest a layer of thermal insulation includes at least a portion *which is contiguous with at least one of a surface of the chamber body and a surface of the longitudinal body portion.*

In light of the foregoing facts, Applicants respectfully submit that claim 1 is allowable over Sajoto and Whitney, either considered separately or in combination, and respectfully request reconsideration thereof.

Applicants further submit that claims 2 through 5 and 7 through 13 are allowable as being dependent from an allowable base claim as well as for the additional patentable subject matter introduced thereby.

With respect to claim 8, Applicants submit that, contrary to the Examiner's assertion, Sajoto and Whitney fail to teach or suggest a heater device having a temperature sensing device disposed within the thermally conductive sheath of the heating device. As noted above, the PTC component 14 of Whitney is a positive temperature coefficient component as part of a self-limiting heater rather than a temperature sensing device as defined by the presently claimed invention.

With respect to claims 9 and 10, Applicants submit that Sajoto and Whitney fail to teach or suggest a thermocouple configured and located as set forth by the presently claimed invention. While the Examiner has cited DeZubay as demonstrating that PTCs are thermocouples, as set forth in detail hereinabove, the reference to a "PTC" by DeZubay is clearly inconsistent with the use of the same acronym by Whitney. As previously submitted, Applicants note that a basic thermocouple conventionally includes a pair of dissimilar metal components forming a junction therebetween to produce a temperature induced voltage. Applicants find no teaching or suggestion in Whitney regarding such a structure.

With respect to claim 10, Applicants further submit that Sajoto and Whitney fail to teach or suggest a thermocouple disposed within the thermally conductive sheathing.

With respect to claim 11, Applicants submit that Sajoto and Whitney fail to teach or suggest that at least a portion of the thermally conductive sheathing is configured to maintain the heating device in a substantially helical pattern complementary with the continual helical groove.

Applicants, therefore, respectfully request reconsideration and allowance of claims 1 through 5 and 7 through 13.

CONCLUSION

Claims 1 through 5 and 7 through 13 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,

Bradley B. Jensen
Registration No. 46,801
Attorney for Applicant(s)
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: June 24, 2004
BBJ/ps:djp

Encl. Form PTO/SB/96

Document in ProLaw

Acronyms & Abbreviations (most common first) Thursday, June 24, 2004

AF Acronym Finder
home/new search

Option
exact acronym

New acronym search
PTC Find

What does **PTC** stand for?

Your search returned 48 meanings

Search again sorting by... Most Common | Information Technology | Military & Government | Science & Medicine | Organizations, Schools, etc. | Business & Finance | Slang & Chat | Alternative Searches

Acronym	Definition	@Amazon.com
PTC	Chief Photographic Intelligenceman (Naval Rating)	GO!
PTC	Pacific Telecommunications Council	GO!
PTC	Paint Technology Center (US Army Corps of Engineers)	GO!
PTC	Pakistan Telecommunication Corporation	GO!
PTC	Panarail Tourism Company	GO!
PTC	Parallel Test Component (TTCN)	GO!
PTC	Parametric Technology Corp.	GO!
PTC	Parent Teacher Club	GO!
PTC	Parent Teacher Conference	GO!
PTC	Parents Television Council	GO!
PTC	Partenariat Technologique Canada (Technology Partnerships Canada)	GO!
PTC	Passively Thermally Compensated	GO!
PTC	Payload Training Capability	GO!
PTC	Peachtree City	GO!
PTC	Pennsylvania Turnpike Commission	GO!
PTC	Pentagon Telecommunications Center	GO!
PTC	Peoria Terminal Company	GO!

PTC	Percutaneous Transhepatic Cholangiography (cancer-diagnostic procedure)	GO!
PTC	Permission to Camp (parental consent form for insurance purposes)	GO!
PTC	Personal Torrent Collector	GO!

Next page of results -->

Didn't find it here? Try our word, technology, and web alternative searches for **PTC**

New Search | Have some buzzword fun! | Tell-a-Friend

Acronyms & Abbreviations (most common first) Thursday, June 24, 2004

AF Acronym Finder
home/new search

Option
exact acronym

New acronym search
PTC Find

What does **PTC** stand for?

Your search returned 48 meanings

Search again sorting by... Most Common | Information Technology | Military & Government | Science & Medicine | Organizations, Schools, etc. | Business & Finance | Slang & Chat | Alternative Searches

Acronym	Definition	@Amazon.com
PTC	Phase Tracking Circuit	GO!
PTC	Phase Transfer Catalysis	GO!
PTC	Philadelphia Transit Company	GO!
PTC	Philmont Training Center (Boy Scouts of America)	GO!
PTC	Physical Transmission Channel	GO!
PTC	Pioneer Theatre Company (Utah)	GO!
PTC	Plasma Thromboplastin Component (Blood Coagulation Factor IX)	GO!
PTC	Platform Technology Committee	GO!
PTC	Polska Telefonia Cyfrowa (Polish telecommunications company)	GO!
PTC	Polynomial Transform Computation	GO!
PTC	Portable Tele-Transaction Computer (in reference to hand held barcode scanners)	GO!
PTC	Positive Temperature Coefficient	GO!
PTC	Positive Train Control	GO!
PTC	Power Temperature Control	GO!
PTC	Power Terminal Cabinet	GO!
PTC	Power Transfer Conduit (Star Trek)	GO!

PTC	Preaching to the Choir	GO!
PTC	Pretrial Confinement	GO!
PTC	Primary Technical Contact	GO!
PTC	Primary Technical Course	GO!

<-- Previous page of results **Next page of results -->**

Didn't find it here? Try our word, technology, and web alternative searches for **PTC**

New Search | Have some buzzword fun! | Tell-a-Friend

Acronyms & Abbreviations (most common first) Thursday, June 24, 2004

AF Acronym Finder
home/new search

Option
exact acronym

New acronym search
PTC Find

What does **PTC** stand for?
Your search returned 48 meanings

Search again sorting by... Most Common | Information Technology | Military & Government | Science & Medicine | Organizations, Schools, etc. | Business & Finance | Slang & Chat | Alternative Searches

Acronym	Definition	@Amazon.com
PTC	Primary Toll Carrier	GO!
PTC	Production Tax Credit	GO!
PTC	Professional Testing Corporation	GO!
PTC	Progress Telecommunications Corporation	GO!
PTC	Project Target Cost	GO!
PTC	Public Telephone Company	GO!
PTC	Public Transport Council (Singapore)	GO!
PTC	Pulse-Tube Cryocooler	GO!

<-- Previous page of results

Didn't find it here? Try our word, technology, and web alternative searches for **PTC**

Your support of our sponsors helps keep Acronym Finder free. Thanks.

Top Add

New Search | Have some buzzword fun! | Tell-a-Friend